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APPLICATION NO.	FILING DATE	FIRST-NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/066,885	02/04/2002	Tsutomu Inada	04995/049001	4838

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EXAMINER

AGUSTIN, PETER VINCENT

ART UNIT PAPER NUMBER

2652

DATE MAILED: 04/21/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

<p align="center"><b>Office Action Summary</b></p>	Application No. 10/066,885		Applicant(s) INADA, TSUTOMU	
	Examiner Peter Vincent Agustin		Art Unit 2652	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 18 March 2005.
- 2a) ☐ This action is FINAL.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-6 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-6 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |   |  |
|---|--|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)<br>2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)<br>3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____. | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____.<br>5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)<br>6) <input type="checkbox"/> Other: _____. |
|---|--|

## DETAILED ACTION

### *Continued Examination Under 37 CFR 1.114*

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on March 18, 2005 has been entered.

### *Claim Objections*

2. Claim 3 is objected to because of the following informalities:

On lines 1-2: "said semiconductor device includes" should be --each of said semiconductor devices include--.

On line 3: "said coil" should be --each of said coils--.

Appropriate correction is required.

### *Claim Rejections - 35 USC § 102*

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claims 4 & 6 are rejected under 35 U.S.C. 102(b) as being anticipated by Childers et al. (US 5,097,361).

In regard to claim 4, Childers et al. disclose an optical pickup actuator circuit (Figure 2, element 13), comprising: a lens holder (20) for an objective lens (22) which is freely movable in

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a vertical direction that moves apart from or toward tracks of an optical disk (Figure 1, element 10) and in a direction that moves across the track; focusing (Figure 2, element 24) and tracking (26) coils attached to said lens holder; focusing (inherent: it is well-known in the art that focus adjustment is achieved by a combination of focusing magnets and focusing coils, i.e., a magnet/coil combination causes movement; therefore, the presence of the focusing coil (24) suggests the presence of a focusing magnet) and tracking magnets (28) fixedly disposed so as to be opposite to said focusing and tracking coils, respectively; and diodes (Figure 7, elements 71 & 72) parallel-connected to an input line of one of said focusing and tracking coils (see column 6, lines 51-54) for leading an input voltage of a predetermined voltage or more to a ground side (Column 6, line 64 thru column 7, line 11 teach that the diodes "limit" side bias forces, e.g., voltage and current. Note also the embodiment on Figure 4, which shows that the ground is located between the two inductors labeled 26. Finally, note that the embodiment in Figure 7 is simply the embodiment of Figure 4 without elements 55, 56 & 57, as stated on column 6, lines 41-42. Therefore, although not explicitly labeled on Figure 7, it is understood that the wire connecting inductors 26C and 26CC are at ground potential.)

In regard to claim 6, Childers et al. disclose that said diodes comprise Zener diodes (as shown by the diode symbols in Figure 7).

### *Claim Rejections - 35 USC § 103*

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

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6. Claims 1-3 & 5 are rejected under 35 U.S.C. 103(a) as being unpatentable over Childers et al.

In regard to claim 1, Childers et al. disclose an optical pickup actuator circuit (note elements similar to claim 4 above) comprising: a lens holder supported so as to be slidable along a support shaft (21) and rotatable around said support shaft and for holding an objective lens so that said lens forms an image of a light beam on a desired track on an information recording surface of an optical disk; a focusing coil attached to said lens holder; and a focusing magnet fixedly disposed so as to be opposite to said focusing coil; wherein two diodes are parallel-connected to an input line of tracking coils (see column 6, lines 51-54) so that an input voltage not lower than a predetermined voltage is led to the ground by said two diodes.

In regard to claim 2, Childers et al. disclose an optical pickup actuator circuit (note elements similar to claims 1 & 4 above) comprising: a lens holder supported so as to be slidable along a support shaft and rotatable around said support shaft and for holding an objective lens so that said lens forms an image of a light beam on a desired track on an information recording surface of an optical disk; focusing and tracking coils attached to said lens holder; and focusing and tracking magnets fixedly disposed so as to be opposite to said focusing and tracking coils respectively; wherein a semiconductor device (Figure 7, elements 71 & 72) is provided at an input line of tracking coils so that an input voltage not lower than a predetermined voltage is led to a ground by said semiconductor device.

In regard to claim 3, Childers et al. disclose that said semiconductor device includes two diodes which are parallel-connected (as shown in Figure 7).

However, Childers et al. do not disclose: in regard to claims 1 & 2, parallel-connecting the two diodes to an input line of said focusing coil; and in regard to claim 3, parallel-connecting the two diodes between an input end and a ground side of said coils.

Official Notice is taken that at the time of the invention by the applicant, it was well-known that a focusing coil has similar electrical current properties as a tracking coil. For example, both a focusing coil and a tracking coil are used in conjunction with a focusing magnet and a tracking magnet in order to induce movement in the focusing direction and tracking direction, respectively. Except for the difference in the directions of movement, which difference is caused by the specific placement of the coils with respect to the magnets, focusing and tracking coils are identical. In Childers et al., two diodes are parallel-connected to an input line of tracking coils for the purpose of limiting the amount of current through the tracking coils, thereby preventing damage to the tracking coils. Since tracking coils and focusing coils have similar properties, the teachings of Childers et al., applied to tracking coils, would also be applicable to focusing coils. Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention by the applicant to have parallel-connected the two diodes of Childers et al. to an input line of the focusing coil, as claimed, because connection to either/both the input line of the focusing coil and/or the input line of the tracking coils would have been obvious variants to one of ordinary skill in the art. Furthermore, the motivation for this modification would have been to limit the amount of current through the focusing coil, thereby preventing damage to the focusing coil.

At the time of the invention by the applicant, it would have been obvious to one of ordinary skill in the art to rearrange elements 26C, 26CC, 71 & 72 from the circuit of Figure 7 so

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that the two diodes of Childers et al. are parallel-connected between an input end and a ground side of said coils because the rearrangement of these elements would not have modified the current-limiting operation of the device. See MPEP 2144.04 [R-1], section VI – C.

Rearrangement of Parts and *In re Japikse*, 181 F.2d 1019, 86 USPQ 70 (CCPA 1950).

In regard to claim 5, Childers et al. disclose that said diodes comprise Zener diodes (as shown by the diode symbols in Figure 7).

### *Response to Arguments*

7. Applicant's arguments with respect to claims 1-6 and the Zucker et al. and Kataoka references have been considered but are moot in view of the new ground(s) of rejection.

Regarding the Applicant's arguments that there is no motivation to combine the teachings of Childers et al. with that of Zucker et al. and/or Kataoka, these arguments are now moot because the Zucker et al. and Kataoka references are no longer relied upon.

8. The Applicant's arguments on page 5, paragraph 2 have been fully considered:

a. The Applicant states that "it is admitted by the Examiner that Childers fails to disclose any coil protection features". The Examiner disagrees. The Examiner never admitted to any lack of disclosure of Childers et al. regarding coil protection features.

Also, it should be noted that this language is not recited in the claims.

b. The Applicant points out that Childers et al. "does not disclose two diodes or semiconductor devices connected in parallel to an input line of a coil as required by independent claims 1 and 2". First, it should be noted that this is not commensurate with the pending claims. Claim 1, as amended, recites that "two diodes are parallel-connected to an input line of said focusing coil". Claim 2, as amended, recites that "a semiconductor

device is provided at an input line of each of said coils”, the limitation “each of said coils” referring to focusing coils and tracking coils. In regard to claim 1, it is the Examiner’s position that while Childers et al. disclose that two diodes are parallel-connected to an input line of tracking coils as noted in the above rejection, it would have been obvious to parallel-connect the two diodes to an input line of said focusing coil for the reasons noted above. Likewise, in regard to claim 2, it is the Examiner’s position that it would have been obvious to provide the semiconductor device at an input line of each of said coils for the same reasons as claim 1.

c. The Applicant states that “It is also admitted that Childers fails to disclose an input voltage not lower than a predetermined voltage being led to the ground by the two diode devices”. The Examiner withdraws this admission. After further consideration of Childers et al., it is shown that Childers et al. disclose this limitation. Column 6, line 64 thru column 7, line 11 teach that the diodes “limit” side bias forces, e.g., voltage and current. Note also the embodiment on Figure 4, which shows that the ground is located between the two inductors labeled 26. Finally, note that the embodiment in Figure 7 is simply the embodiment of Figure 4 without elements 55, 56 & 57, as stated on column 6, lines 41-42. Therefore, although not explicitly labeled on Figure 7, it is understood that the wire connecting inductors 26C and 26CC are at ground potential.

### *Conclusion*

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Peter Vincent Agustin whose telephone number is 571-272-7567. The examiner can normally be reached on Monday-Friday 9:30-5:30 PM.




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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Hoa Thi Nguyen can be reached on 571-272-7579. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Peter Vincent Agustin  
Art Unit 2652



**BRIAN E. MILLER**  
**PRIMARY EXAMINER**